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basic imagery interpretation report

Kharkov Airframe Plant 135 (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

USSR



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INSTALLATION OR ACTIVITY NAME					COUNTRY
Kharkov Airframe Plant 135					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	50-01-27N 036-15-44E				
MAP REFERENCE					
DMAAC. US Air Target Chart, Series 200, Sheet 0234, scale 1:200,000					
LATEST IMAGERY USED			NEGATION DATE (if required)		
			NA		

ABSTRACT

1. This report describes construction and production activity observed at Kharkov Airframe Plant 135 from [] the information cutoff date for the updated NPIC report, [] through [] and satisfies the basic reporting requirement for this target. (S/WN)
2. This report contains one location map, nine annotated photographs, and three tables. (S/WN)

BASIC DESCRIPTION

3. Kharkov Airframe Plant 135 is one of the major airframe plants in the Soviet Union and has a history of producing aircraft designed by the Tupolev Design Bureau.¹ Only the CRUSTY B and a stretched version of the CRUSTY (Tu-134A) were being produced there as of the end of the reporting period. Aircraft previously produced at the plant include the CRUSTY (Tu-134), which was produced between 1963 and 1983, the CAMEL (Tu-104), and the COOKPOT (Tu-124). The CAMEL is the commercial version of the BADGER (Tu-16) and was the first turbojet-powered commercial airliner in the Soviet Union. It was reportedly produced at Plant 135 between 1956 and 1959. The COOKPOT, a scale-down version of the CAMEL, is a medium-range transport and the first Soviet transport with turbofan engines.¹ The COOKPOT was produced at Plant 135 between 1960 and 1968. (S/WN)

4. Kharkov Airframe Plant 135 is on the northern edge of Kharkov, approximately 2.5 nautical miles (nm) from the center of the city (Figure 1). The plant is surrounded by residential areas that limit any major expansion outside of the present plant walls. (S/WN)

5. Kharkov Electronics Plant Komunar (BE []) which produces electronics components for aircraft and missiles, is in a separately secured area in the southwestern portion of the plant but considered an integral part of Plant 135 for this report.² Both Kharkov Aircraft Components Plant 157 [], approximately 1.5 nm south, and Kharkov Aviation Institute [] immediately north, may be associated with Plant 135. Perm Aircraft Engine Plant Stalin 19 (BE []) which produces the D-30 turbofan engine used in the CRUSTY, is associated with Plant 135.¹ (S/WN)

6. Kharkov North Airfield [] the test and flyaway field for Plant 135, is collocated with the plant and within the secured area of the plant (Figure 2). The concrete-surface runway was completed in 1963 and is serviceable, [] and oriented northeast/southwest [] (S/WN)

Construction

7. Kharkov Airframe Plant 135 (Figures 2 and 3) occupies 237.5 hectares (587 acres). During the reporting period, the facility floorspace was expanded by 23,260 square meters to a total of 349,488 square meters. An additional 17,660 square meters of floorspace was under construction at the end of the reporting period. (S/WN)

8. Of the total floorspace constructed or under construction during the reporting period, 52 percent (21,424 square meters) is production related (involving assembly/subassembly; items 1, 2, and 20; Table 1 and Figure 3). Eighteen percent (7,203 square meters) is related to direct support (shops or test buildings; items 8, 9, 11, and 12). The remaining 30 percent (12,293 square meters) is general purpose (primarily storage and support; items 3-7, 10, and 13-19). (S/WN)

Production

9. Both variants of the standard CRUSTY (Tu-134 and Tu-134A) and the CRUSTY B (interim designator modified CRUSTY) were observed at the plant throughout the reporting period; however, only the Tu-134A and the CRUSTY B were still in production there by the end of the period. The CRUSTY is a medium-range jet transport with two rear, fuselage-mounted Soloviev D-30 turbofan

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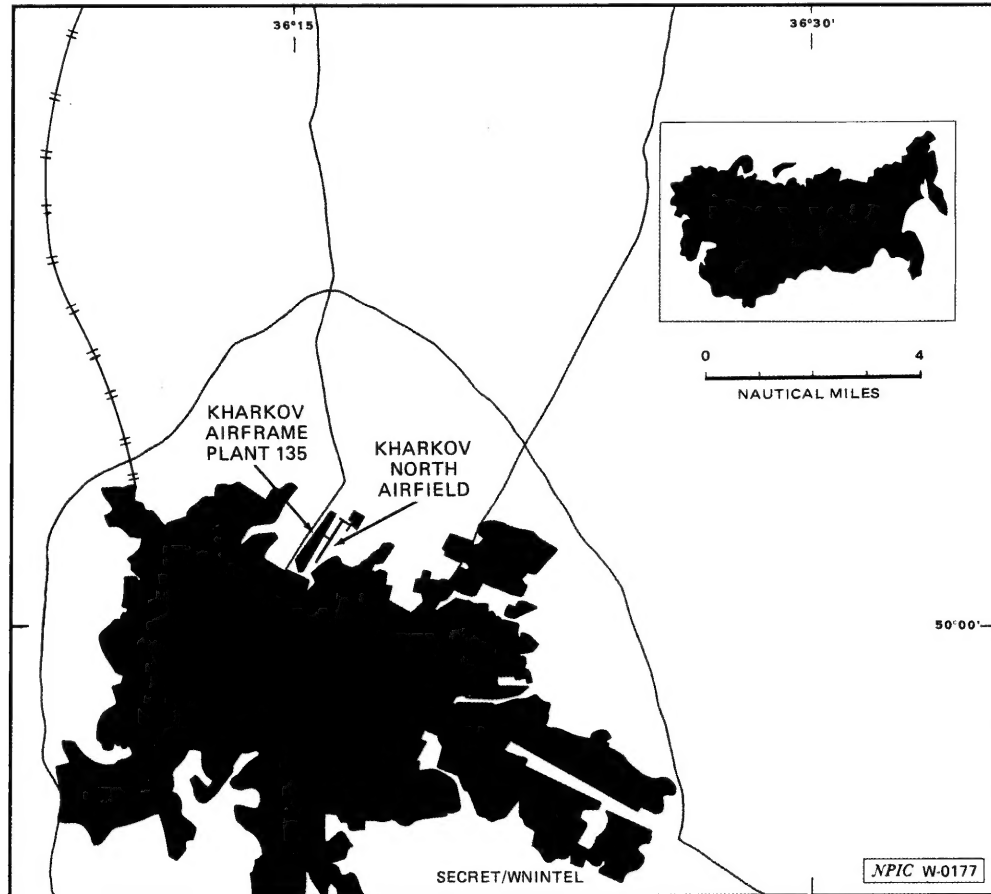


FIGURE 1. LOCATION OF KHARKOV AIRFRAME PLANT 135, USSR

engines. The Tu-134 version of the standard CRUSTY seats 72 passengers or 75 troops, in contrast with the Tu-134A (Figure 4), which was lengthened by approximately [] forward of the leading edge of the wing and seats 76 passengers or 80 troops. []

10. Between [] at least one standard CRUSTY was observed on every complete coverage of Plant 135. The high count of 10 standard CRUSTYs was observed on imagery of [] and a low count of one was present on [] (Table 2). []

Another indication that Tu-134 production had ended was the observation of a Tu-134 CRUSTY in the static display area (Figure 6) in front of the large final assembly/subassembly building in the southern plant area. Other aircraft in this display included a Tu-104 CAMEL and a Tu-124 COOKPOT, both Tupolev-designed aircraft

previously produced at Plant 135. Conversely, unpainted Tu-134A CRUSTY aircraft (Figure 4) and Tu-134A CRUSTYs with bort numbers from new production runs were often observed. (S/WN)

11. On [] a CRUSTY [] with a modified nose section was observed on an apron at the south end of the final assembly/checkout hangar (Figure 7). With the modified nose section, the CRUSTY B fuselage is [] longer than the Tu-134A CRUSTY. The maximum diameter of the new nose section is [] meters. This was the prototype CRUSTY B and, unlike any other CRUSTY B identified, it had the Aeroflot markings seen on standard CRUSTYs. All other CRUSTY Bs have been observed with the standard military gray paint scheme (Figure 5) and appear to be new aircraft rather than modified older CRUSTY aircraft. Since production began in 1981, a high count of 15 CRUSTY Bs was observed on [] No CRUSTY Bs were present on [] (Table 2). (S/WN)

12. CRUSTY B aircraft have been observed at several training bases and are probably associated with flight crew training. The aircraft has been seen at Orenburg Airfield Northeast [] a flight training base in the Volga Military District (MD); Tambov Airfield [] a pilot training base in the Moscow MD; and Orsk Airfield [] which supports a flight training regiment in the Volga MD. (S/WN)

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Table 1.
Construction at Kharkov Airframe Plant 135,
 (Items keyed to Figure 3)

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Item	Description	Dimensions (m)*			Total Floorspace (sq m)	Date Observed Complete	Remarks
		L	W	H			
1	Admin/assem bldg				16,650	Jan 83	Addition
2	Assem/subassem bldg				2,429	Ucon	
3	Stor bldg				638	Jul 83	
4	Stor bldg				430	Mar 82	Addition
5	Maint/shop bldg				236	Aug 80	
6	Admin/control bldg				439	Sep 80	
7	Maint bldg				177	Jun 78	
8	Shop/maint bldg				502	Ucon	4 stories
9	Engr/test bldg				492	Jun 81	
10	Stor bldg				436	Aug 82	
11	Subassem/hangar bldg				1,382	Ucon	
12	Engr/subassem bldg				4,827	Ucon	
13	Unid bldg				882	Ucon	
14	Unid bldg				356	Ucon	
15	Admin/engr bldg				7,283	Ucon	
16	Stor bldg				355	Jun 78	
17	Stor bldg				403	Mar 79	
18	Stor bldg				333	Mar 79	
19	Stor bldg				325	Mar 79	
20	Admin/assem bldg				2,345	Ucon	3 stories
Floorspace under construction					17,660		
Floorspace completed during the reporting period					23,260		
Total completed floorspace at plant					349,488		

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Table 2.
Representative Sightings of CRUSTYs at Kharkov Airframe Plant 135,

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	Tu-134/ -134A CRUSTY	CRUSTY B	Total Number Observed		Tu-134/ -134A CRUSTY	CRUSTY B	Total Number Observed
1978				1982			
	4	—	4		6	6	12
	6	—	6		6	4	10
	4	—	4		5	7	12
	5	—	5		4	2	6
					4	5	9
1979					1	6	7
	9	1	10		2	6	8
	6	1	7		3	6	9
	6	1	7	1983			
	2	0	2		3	3	6
	3	0	3		5	2	7
	2	0	2		4	2	6
	3	0	3		3	2	5
	3	0	3		4	2	6
	5	0	5		7	0	7
	3	0	3		2	3	5
1980					3	5	8
	6	0	6		2	3	5
	6	0	6		3	2	5
1981					3	2	5
	6	1	7		3	2	5
	6	7	13		8	1	9
	5	6	11		5	4	9
	5	6	11		6	3	9
	3	12	15		4	2	6
	2	15	17	1984			
	7	8	15		5	1	6
	4	7	11		5	1	6
	3	7	10		10	1	11
					4	1	5
					6	0	6
					5	1	6

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13. The CRUSTY navigational mod and CRUSTY satellite communications mod are two other variants of the Tu-134 CRUSTY that were seen at the plant during the reporting period. The CRUSTY navigational mod (Figure 8) can be identified by the two dorsal protrusions, probably sextant ports, slightly off center on the port side of the aircraft. This aircraft, a probable military navigation training aircraft, has been identified both at the production facility and at Soviet navigation training-associated airfields. The CRUSTY satellite communications mod (Figure 9) has a raised area along the fuselage centerline (similar to that of the CLASSIC satellite communications mod) that is probably modified for Molniya satellite communications.³ (S/WN)

14. The overall CRUSTY production rate has decreased since 1981. The rate, which had been assessed at approximately 4.5 aircraft per month since 1976, decreased to 4 per month in 1980 and to 3.5 per month in 1981 and 1982.⁴ Analysis of imagery during 1983 and 1984 indicates that this

rate is still declining. A portion of the new production is intended for foreign markets, as evidenced by the sighting of standard CRUSTYs with Polish and Syrian markings at Kharkov Airframe Plant 135 since 1982. The production rate of the standard CRUSTY is decreasing while production of the CLOBBER (Yak-42), the reported replacement for the Tu-134, is increasing (Table 3).⁴ (S/WN)

Other Observations

15. Passenger loading ramps (Figure 10) were often observed on the apron adjacent to the final assembly/checkout building next to the aircraft checkout area (Figure 2). (S/WN)

Security

16. Plant 135 is secured by a perimeter wall, probably of masonry construction, with entrances on the western and eastern walls. This plant is served only by road and air. (S/WN)

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Table 3.
CRUSTY and CLOBBER Production, 1978 to 1983⁴

Aircraft	Start Production	1978	1979	1980	1981	1982	Cumulative Production
CRUSTY	1966	52	53	48	42	42	640
CLOBBER	1977	4	7	12	36	36	100

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REFERENCES**IMAGERY**

All available satellite imagery acquired from [] was used in the preparation of this report. (S/WN)

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MAPS OR CHARTS

DMAAC. US Air Target Chart, Series 200, Sheet 0234, scale 1:200,000 (U)

DOCUMENTS

1. NPIC. [] RCA-09/0033/73, *Kharkov Airframe Plant 135 (S)*, Feb 73 (TOP SECRET [])
2. NPIC. Z-14587/82, IAR-0059/82, *Electronics Production and Development Facilities in the Kharkov Area, USSR (S)*, Jul 82 (SECRET [])
3. NPIC. [] RCA-09/0025/78, *Kharkov Airframe Plant 135 (S)*, Sep 78 (TOP SECRET [])
4. DIA. DDB-1923-2A-83-SAO, *Foreign Aircraft Production (FOAP) Communist World (U)*, Aug 83 (TOP SECRET [])

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REQUIREMENT

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Comments and queries regarding this report are welcome. They may be directed to [] Soviet Air, Navy, and Nuclear Division; Imagery Exploitation Group; NPIC; []

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